JOHA
E-ISSN: 2830-3407 | P-ISSN: 2830-3733

Journal of Healthcare Administration
https://www.belitungraya.org/BRP/index.php/joha/index

Volume 3(2), 100-112

https://doi.org/10.33546/joha.3504

Original Research

The relationship between perceived social support, self-esteem, and postpartum depression among Saudi women: A correlational cross-sectional study

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Abstract

Background: Postpartum depression is a significant mental health concern affecting many women globally, with potential adverse effects on both maternal and infant well-being. Social support and self-esteem are crucial factors influencing postpartum depression, yet their relationships in the context of Saudi Arabia remain underexplored.

Objective: This study aimed to examine the relationships between social support, self-esteem, and postpartum depression among women who have recently given birth in Saudi Arabia.

Methods: A cross-sectional design was used, with convenience sampling targeting women who gave birth within the past six months. Data were collected between January and February 2023 via an online self-administered questionnaire, which included sociodemographic information and three standardized scales: The Multidimensional Scale of Perceived Social Support (MSPSS), The Rosenberg Self-Esteem Scale (RSS), and The Edinburgh Postnatal

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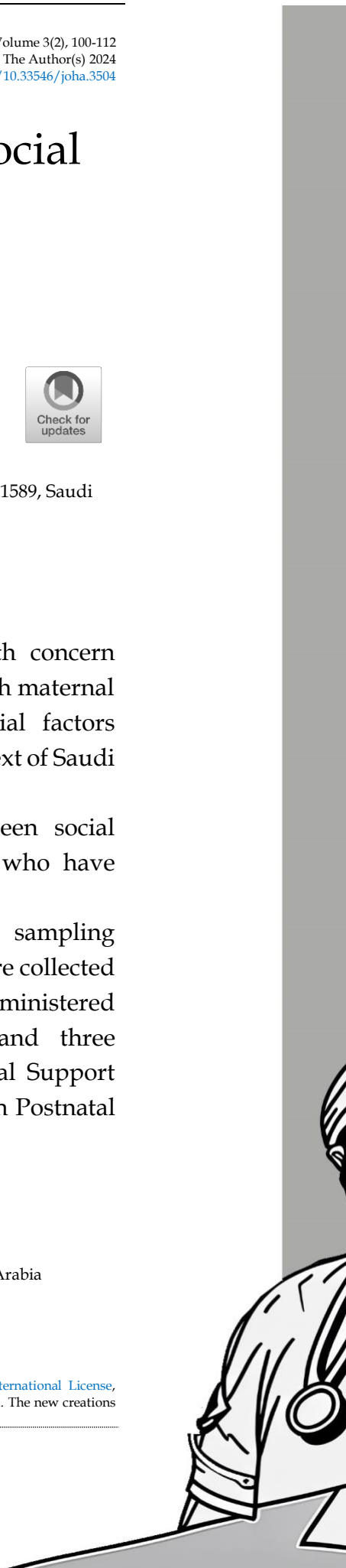
Article info
Received: 9 July 2024 | Revised: 7 August 2024 2022 | Accepted: 6 September 2024



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E-ISSN: 2830-3407 | P-ISSN: 2830-3733

Depression Scale (EPDS). Descriptive statistics and Pearson correlation coefficients were conducted using IBM SPSS Statistics version 26.

Results: The mean score for postpartum depression was 14.81, with a standard deviation of 6.30, indicating a moderate level of depression symptoms. Significant negative correlations were found between social support and postpartum depression (r = -0.54, p = 0.001) and between self-esteem and postpartum depression (r = -0.63, p = 0.001). A positive correlation was observed between social support and self-esteem (r = 0.53, p = 0.001), highlighting the protective roles of these factors.

Conclusion: The study emphasizes the importance of improving social support and self-esteem to reduce postpartum depression risk among new mothers. Midwives and healthcare providers should focus on creating supportive environments and strategies that foster both social support and self-esteem. Such approaches will not only improve maternal mental health outcomes but also contribute to a more sustainable and holistic healthcare system by addressing the root factors influencing postpartum well-being.

Keywords

Saudi Arabia; postpartum; depression; self-esteem; social support; pregnancy

Background

Pregnancy and childbirth are two of the most significant and life-changing events for all women (Inekwe & Lee, 2022). Prenatal and postpartum depression are common psychiatric disorders that affect women worldwide. Women at these stages of their lives frequently experience mental health issues (Fan et al., 2022). According to the World Health Organization (WHO), 10-15% of postpartum women experience mental health problems, primarily postpartum depression (WHO, 2024).

Postpartum depression (PPD) is a type of mood disorder associated with childbirth, typically beginning between two weeks and one year postpartum (Fan et al., 2022). Severe cases can persist for one to two years (Payne & Maguire, 2019). PPD is one of the most common psychiatric conditions in the postnatal period (Cho et al., 2022). The prevalence of PPD in new mothers is as high as 20%, with the recurrence rate of PPD in a second pregnancy reaching 30% (Shorey et al., 2018). Research conducted in Riyadh, Saudi Arabia, revealed a high frequency of PPD (38.5%) among Saudi women (Alzahrani et al., 2022). PPD affects approximately 20% of women during the first year after birth and 25% beyond the first year (Falana & Carrington, 2019). Other research indicated that it affects 50% to 80% of women (Sharifzadeh et al., 2018).

When mental health issues first appear, a woman's marital relationship might be destroyed or torn apart (Cho et al., 2022). PPD is characterized by a depressed mood, loss of interest, sleep disturbances, psychomotor agitation or retardation, feelings of worthlessness, and even suicidal thoughts and behaviors in severe cases (Fan et al., 2022). PPD is a severe mental health problem that affects women regardless of social status or education. It is associated with mood and behavioral changes and can result in a suicide attempt (Stachowicz & Sowa-Kućma, 2022). To meet the diagnostic criteria for depression, symptoms must persist for at least two weeks and interfere with a person's daily functioning (Inekwe & Lee, 2022).

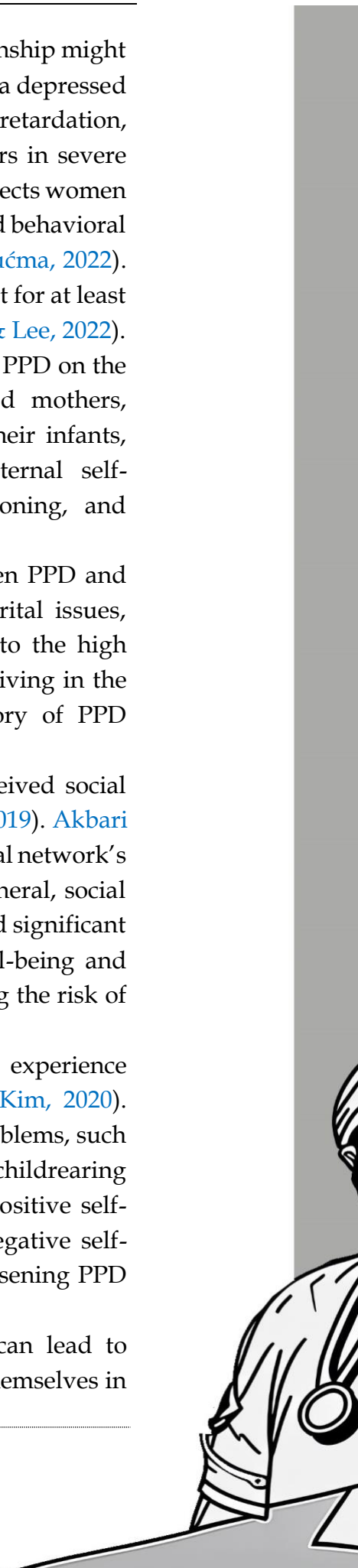
A large body of evidence has documented the negative effects of PPD on the well-being of mothers and infants. Compared to non-depressed mothers, depressed mothers tend to have a more negative perception of their infants, detached and neglectful mother-child relationships, lower maternal self-confidence, lower quality of life, reduced interpersonal functioning, and increased rates of marital discord (Akbari et al., 2020).

Some researchers have investigated possible associations between PPD and other variables. For example, although social factors such as marital issues, spousal abuse, and unpleasant life experiences might contribute to the high frequency of PPD in the community, one in three women (29.7%) living in the most socioeconomically disadvantaged communities had a history of PPD (Inekwe & Lee, 2022).

Other researchers have explored the relationship between perceived social support and PPD (Akbari et al., 2020; Cho et al., 2022; Vaezi et al., 2019). Akbari et al. (2020) referred to an individual's overall perception of their social network's level of support, or lack thereof, as perceived social support. In general, social support and a close relationship with others (e.g., family, friends, and significant others) are important factors that positively impact women's well-being and health outcomes during pregnancy, childbirth, and PPD by reducing the risk of PPD (Akbari et al., 2020).

Approximately 30% to 70% of women who have given birth experience lowered self-esteem after childbirth for various reasons (Han & Kim, 2020). Lowered self-esteem leads to numerous social and psychological problems, such as degraded marital relationships, depression, bulimia, and reduced childrearing competency (Aydemir & Onan, 2020). Specifically, women with positive self-esteem can more easily recover from PPD, whereas those with negative self-esteem and self-image have a greater likelihood of developing worsening PPD (Sharifzadeh et al., 2018).

Depression and low self-esteem are related; low self-esteem can lead to depression, and depressed individuals process information about themselves in



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E-ISSN: 2830-3407 | P-ISSN: 2830-3733

a distorted way, negatively affecting their self-esteem (Han & Kim, 2020). Low self-esteem in postnatal women represents a fundamental element in the occurrence of PPD, with women experiencing severe PPD being more likely to have low self-esteem (Aydemir & Onan, 2020).

Few researchers have examined the relationship between social support and PPD (Akbari et al., 2020; Cho et al., 2022; Vaezi et al., 2019), and most have conducted their studies abroad, for example, in Korea (Cho et al., 2022) and Iran (Akbari et al., 2020; Vaezi et al., 2019). None have conducted studies in Saudi Arabia. Similarly, few researchers have explored the association between self-esteem and PPD (Aydemir & Onan, 2020; Han & Kim, 2020), with most studies conducted abroad, for example, in Korea (Han & Kim, 2020), Iran (Akbari et al., 2020) and Turkey (Aydemir & Onan, 2020). None have conducted studies in Saudi Arabia.

The literature in Saudi Arabia reveals varying degrees of PPD prevalence among Saudi women. Alsayed et al. (2021) indicated a high prevalence (20.9%), Al Nasr et al. (2020) reported a very high prevalence (38.50%), and Almuqbil et al. (2022) also reported a very high prevalence (59.68%).

Given this high prevalence, the negative impact of PPD, especially in Saudi Arabia, and its association with numerous other variables, investigating these variables has become important (Fan et al., 2022). Moreover, researchers have noted that despite advances in PPD diagnosis and treatment, it remains underdiagnosed and misunderstood (Falana & Carrington, 2019), highlighting the importance of exploring it through the investigation of associated variables.

Based on the literature review, it is clear that no research has examined the relationship between social support, self-esteem, and PPD in Saudi Arabia. Many researchers in the country have sought to determine the prevalence of PPD (Al Nasr et al., 2020; Alsayed et al., 2021). Furthermore, previous research has separately investigated social support and its relationship with PPD or self-esteem and its relationship with PPD.

Therefore, this study aimed to address this research gap by investigating the relationship between perceived social support, self-esteem, and PPD. The research seeks to address the following questions: 1) What is the relationship between postpartum depression and perceived social support among postpartum mothers in Saudi Arabia? 2) What is the relationship between social support and self-esteem among postpartum mothers in Saudi Arabia? 3) What is the relationship between self-esteem and postpartum depression among postpartum mothers in Saudi Arabia?

Methods

Study Design

This study employed a correlational cross-sectional study design.

Samples/Participants

The convenience sampling method was employed, targeting women who had given birth within the past six months. The inclusion criteria specified that participants must be aged 18 years or older, Arabic speakers, and without a history of PPD. The eligible sample size consisted of 159 participants.

Instruments

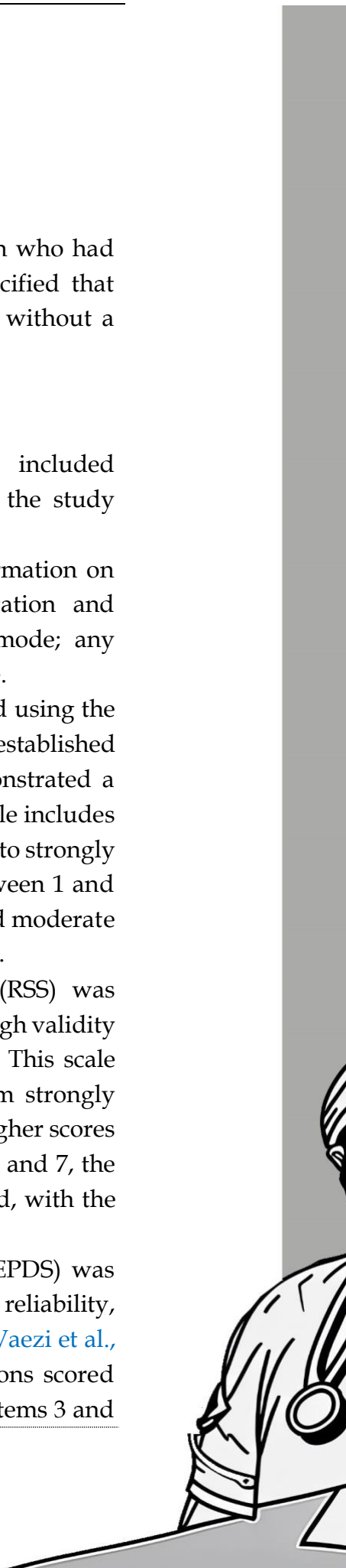
A self-administered online questionnaire was utilized, which included sociodemographic data and three standardized scales to measure the study variables. All scales used were publicly available.

Section One: Sociodemographic Data. This section collected information on the baby's age, gender, and date of birth; the mother's education and employment status; the husband's employment status; delivery mode; any previous abortions; breastfeeding; and previous parenting experience.

Section Two: Social Support. Data on social support were gathered using the Multidimensional Scale of Perceived Social Support (MSPSS), a well-established questionnaire with good validity and reliability. The MSPSS demonstrated a Cronbach's alpha of 0.78 (Akbari et al., 2020; Cho et al., 2022). The scale includes 12 questions, with responses ranging from strongly disagree (1 point) to strongly agree (7 points). According to the scoring system, a mean score between 1 and 2.9 was considered poor support, a score between 3 and 5 was deemed moderate support, and a score between 5.1 and 7 was classified as high support.

Section Three: Self-Esteem. The Rosenberg Self-Esteem Scale (RSS) was employed to assess self-esteem. The RSS is widely recognized for its high validity and reliability, with a Cronbach's alpha of 0.86 (Han & Kim, 2020). This scale consists of 10 items, each with four response options ranging from strongly disagree to strongly agree. The total score ranges from 0 to 30, with higher scores indicating higher self-esteem (Han & Kim, 2020). For items 1, 2, 4, 6, and 7, the scores ranged from 0 to 3. Items 3, 5, 8, 9, and 10 were reverse-scored, with the highest score of 0 and the lowest score of 3.

Section Four: PPD. The Edinburgh Postnatal Depression Scale (EPDS) was used to measure PPD. This scale is well-regarded for its validity and reliability, with a Cronbach's alpha of 0.73 (Akbari et al., 2020; Cho et al., 2022; Vaezi et al., 2019). The EPDS consists of 10 items, each with four response options scored from 0 to 3. Items 1, 2, and 4 were scored directly from 0 to 3, while items 3 and



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E-ISSN: 2830-3407 | P-ISSN: 2830-3733

5 through 10 were reverse-scored. The total scores range from 0 to 30, with a score above 12 indicating a high probability of developing PPD.

The scales were translated using back translation and then reviewed for content validity by three members of the Maternity Department in the College of Nursing. To test the clarity of the questionnaire, a pilot study was conducted with a sample of 20 participants. The questionnaire was clear and understandable, with no errors or barriers.

Data Collection

Data were collected between January and February 2023. The questionnaire was distributed online to the target population—women who had given birth within the past six months. Women who had given birth outside this period were excluded. Participants were recruited through social media platforms, including Facebook, WhatsApp, and Snapchat. Data collection occurred through the online survey to ensure rapid responses and broader reach.

Data Analysis

Following ethical approval from the Faculty of Nursing at King Abdulaziz University, IBM's SPSS Statistics version 26 was used for all statistical analyses. Descriptive statistics were reported, including frequency, percentage, mean, and standard deviation (SD). The Pearson correlation coefficient was employed to analyze the relationships between self-esteem and PPD, perceived social support and PPD, and perceived social support and self-esteem. All assumptions for Pearson correlation were met. Statistical significance was set at p-value of less than 0.05.

Ethical Considerations

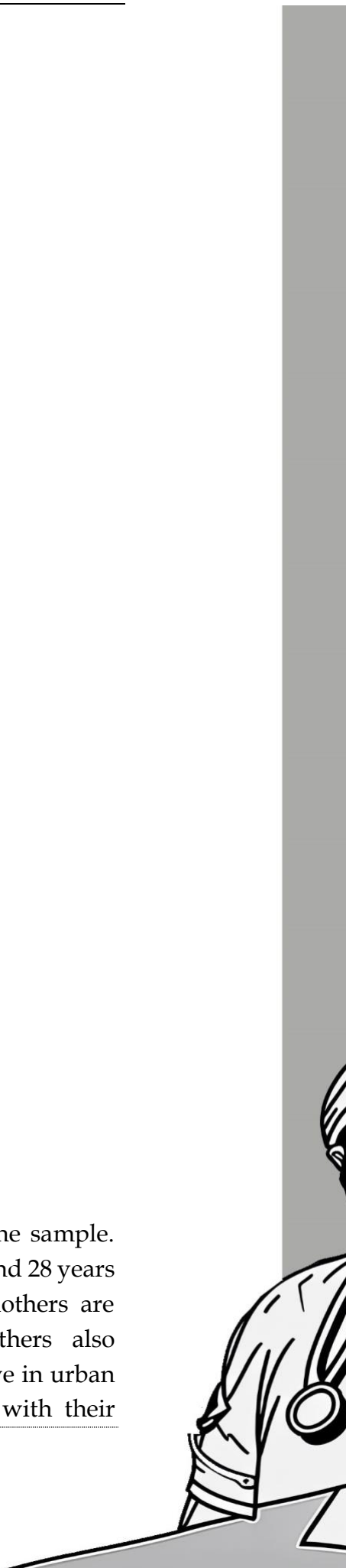
The study received approval from the Institutional Review Board of King Abdulaziz University (NREC Serial No: Ref No 1F. 24). After obtaining ethical approval from the Faculty of Nursing at King Abdulaziz University, participants provided electronic consent before completing the survey. The consent form outlined the study's objectives and the estimated time required to complete the survey and emphasized that participation was voluntary. Participants were informed they could withdraw from the study at any time until data collection was concluded without providing an explanation. All responses were kept anonymous, with access restricted to the research team. An ID was assigned to each participant to maintain questionnaire anonymity.

Results

Table 1 Demographic characteristics of the participants

Characteristics	n	%
Age		
From 18 to 28	80	50.3
From 29 to 39	70	44.0
Older than 40	9	5.7
Mother's occupational status		
Employee	127	79.9
Non-employee	6	3.8
Freelancer	26	16.4
Mother's educational level		
Secondary	17	10.7
Diploma	12	7.5
University	130	81.8
Father's educational level		
Intermediate	2	1.3
Secondary	19	11.9
Diploma	28	17.6
University	110	69.2
Residence		
City	147	92.5
Countryside	12	7.5
Living with husband		
Yes	142	89.3
No	17	10.7
Living with family		
Yes	97	61.0
No	62	39.0
Having someone to help		
Yes	66	41.5
No	93	58.5
Newborn's gender		
Frequency		Percent
Male	74	46.5
Female	85	53.5
Same Gender wanted by mother		
Yes	125	78.6
No	34	21.4
Same Gender wanted by father		
Yes	54	34.0
No	105	66.0

Table 1 highlights key demographic and family characteristics of the sample. Most participants are relatively young, with 50.3% aged between 18 and 28 years and 44.0% between 29 and 39 years. A significant majority of mothers are employed (79.9%) and have a university degree (81.8%). Fathers also predominantly hold university degrees (69.2%). Most participants live in urban areas (92.5%) and with their husbands (89.3%), while 61.0% live with their



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E-ISSN: 2830-3407 | P-ISSN: 2830-3733

families. Support is variable, with 41.5% receiving additional help. Regarding newborns, 53.5% are female, and 46.5% are male. Most mothers (78.6%) preferred a baby of the same gender, whereas only 34.0% of fathers had the same preference.

Table 2 Obstetric and health history

Obstetric and Health History	n	%
Number of pregnancies		
From 1 to 3	147	86.0
From 4 to 6	21	12.3
More than 6	3	1.7
Number of miscarriages		
None	133	77.8
From 1 to 3	37	21.6
From 4 to 6	1	0.6
More than 6	0	0.0
Weeks of gestation		
Less than week 28	4	1.9
Week 28 to 31	13	8.0
Week 32–36	29	17.0
Week 36–40	101	59.1
More than week 40	24	14.0
Birth method		
Vaginal delivery	100	58.5
Cesarean section	71	41.5
Family history of diagnosed PPD		
Yes	28	16.4
No	143	83.6
Newborn health problems		
Yes	15	9.4
No	144	90.6

Table 2 shows that the majority of participants have had between 1 and 3 pregnancies (86.0%) and no miscarriages (77.8%). Most births occurred between 36 and 40 weeks of gestation (59.1%), and vaginal delivery was the predominant method (58.5%). Majority of the participants did not have a family history of diagnosed PPD (83.6%) and reported no newborn health problems (90.6%).

The results also revealed that the mean score for social support was 5.52, with a standard deviation of 1.07, indicating a relatively high level of perceived social support among participants. The mean self-esteem score was 29.62, with a standard deviation of 5.15, reflecting generally high self-esteem, though with some variability. The mean score for PP) was 14.81, with a standard deviation of 6.30, suggesting a moderate level of PPD symptoms, with variability in the extent of symptoms experienced by participants.

Table 3 shows that there were significant correlations between the variables studied. The correlation between social support and self-esteem was 0.53, with a *p*-value of 0.001, indicating a moderate positive relationship; self-esteem also

tended to increase as social support increased. Social support had a correlation of −0.54 with PPD, also with a *p*-value of 0.001, suggesting a moderate negative relationship; higher social support was associated with lower levels of PPD. Additionally, the correlation between self-esteem and PPD was −0.63, with a *p*-value of 0.001, reflecting a strong negative relationship; higher self-esteem was associated with lower levels of PPD.

Table 3 Correlations among variables

Variables	*r*	*p*
Social support → Self-esteem	0.53	0.001*
Social support → PPD	−0.54	0.001*
Self-esteem → PPD	−0.63	0.001*

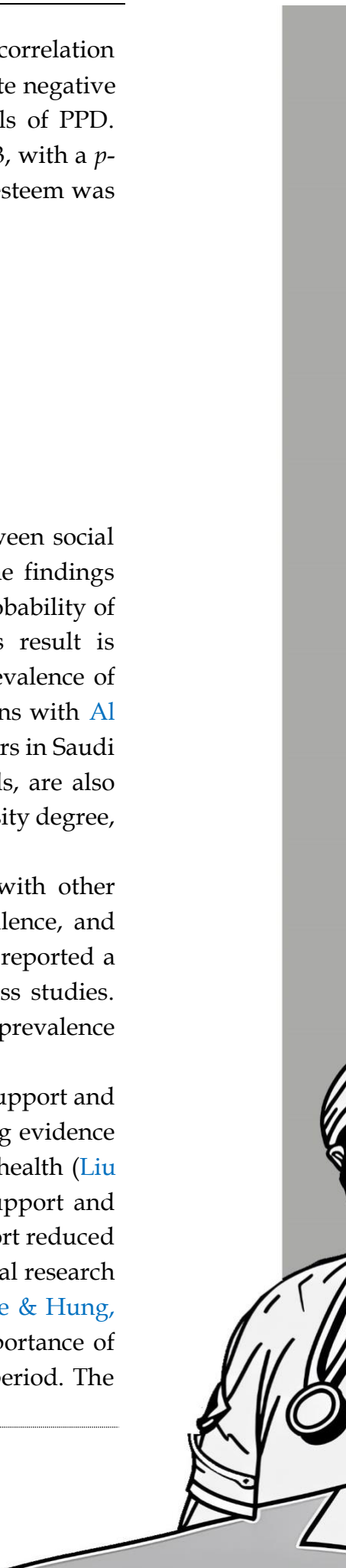
Note: * p <0.05

Discussion

The objective of this study was to investigate the relationships between social support, self-esteem, and PPD among women in Saudi Arabia. The findings indicated that over half of the participants (56%) had a very high probability of PPD, suggesting a significant prevalence of this condition. This result is consistent with Almuqbil et al. (2022), which reported a 59.68% prevalence of probable PPD symptoms among Saudi women. Additionally, it aligns with Al Nasr et al. (2020), which found a 38.50% prevalence among 174 mothers in Saudi Arabia. Demographic characteristics, such as high educational levels, are also comparable, with 81.8% of participants in this study holding a university degree, similar to the findings of Al Nasr et al. (2020).

However, the high prevalence of PPD in this study contrasts with other research. For instance, Alsayed et al. (2021) reported a 22% prevalence, and Alrehaili and Albelowi (2022) found 31.68%. Alhusaini et al. (2022) reported a lower prevalence of 15.2%, indicating variability in PPD rates across studies. Despite these differences, the overall trend suggests a high and rising prevalence of PPD in Saudi Arabia.

The study identified a strong negative correlation between social support and PPD, as well as self-esteem and PPD. These findings support existing evidence that social support and self-esteem are protective factors for mental health (Liu et al., 2021). The significant negative relationship between social support and PPD aligns with Alhusaini et al. (2022), which noted that social support reduced the likelihood of PPD by 2.7 times. This is consistent with international research (Bhushan et al., 2022; Cheng et al., 2022; Fleischman et al., 2022; Lee & Hung, 2022; Taylor et al., 2022; Zlotnick et al., 2023), emphasizing the importance of support from friends, family, and spouses during the postpartum period. The



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E-ISSN: 2830-3407 | P-ISSN: 2830-3733

majority of participants in this study lived with their husbands and families and had additional help with household tasks and childcare, highlighting the practical benefits of social support.

A significant negative relationship was also found between PPD and self-esteem, reflecting the association that low self-esteem can influence PPD. This aligns with other research (Cheadle et al., 2018; Crockett et al., 2019; Han & Kim, 2020; Islam et al., 2020), which suggests that interventions aimed at boosting self-esteem could help reduce the risk of PPD. Additionally, a positive relationship between social support and self-esteem was observed, corroborating findings by Kazi (2021), which indicated that a supportive social network enhances self-esteem.

The observed relationships between social support, self-esteem, and PPD may be influenced by various factors. Al-Amer et al. (2022) demonstrated that social support significantly mediates the link between depressive symptoms and self-esteem, with low social support correlating strongly with high stress, depressive symptoms, and poor self-esteem. Therefore, screening for low social support and self-esteem during antenatal care could improve primary health care and promote better health outcomes for mothers and their babies.

Limitations

Several limitations should be noted. The cross-sectional design captures data at a single point in time, limiting the ability to establish causality or observe changes over time. The use of self-report questionnaires introduces potential response biases and recall issues. The convenience sampling method, primarily through social media, may not fully represent the broader population of Saudi women who have recently given birth. Additionally, the sample was predominantly highly educated and lived with their families, which may affect the generalizability of the results. The study also lacked longitudinal data, preventing insights into how social support, self-esteem, and postpartum depression (PPD) may evolve over time. Future research should consider longitudinal designs and more diverse samples to enhance understanding of these relationships.

Implications of this Study

This study highlights several key implications for midwives and sustainable healthcare. First, the strong negative correlations between social support and PPD and between self-esteem and PPD highlight the critical role of comprehensive support systems in mitigating PPD. Midwives should actively engage with new mothers to assess their social support networks and self-esteem

levels, offering targeted interventions such as counseling or support groups to address any deficiencies. Encouraging strong familial and social support can significantly improve mental health outcomes.

Furthermore, the findings emphasize the importance of integrating mental health screening into routine postpartum care. Midwives can play a pivotal role in the early identification of PPD symptoms, thereby facilitating timely referrals to mental health professionals and support services. Sustainable healthcare practices can be enhanced by adopting a holistic approach to maternal care that includes mental well-being. Midwives can help create a more supportive and effective postpartum care environment by focusing on both psychological and physical health. This approach improves individual health outcomes and contributes to broader public health goals by reducing the long-term impacts of untreated PPD on families and communities.

Conclusion

This study reveals a high prevalence of PPD among women in Saudi Arabia, with significant correlations between social support, self-esteem, and PPD. The findings emphasize the importance of strong social support networks and high self-esteem in reducing PPD risk. Midwives play a crucial role in assessing and enhancing these factors through targeted interventions and routine mental health screenings. Integrating mental health support into postpartum care can improve outcomes for mothers and contribute to more sustainable healthcare practices, ultimately benefiting both individuals and the broader community. Further research with diverse and longitudinal approaches is needed to confirm these findings and refine interventions.

Declaration of Conflicting Interest
The authors declare no conflict of interest.

Funding
None.

Acknowledgment
None.

Authors' Contributions
All authors equally substantially contributed to the work design, acquisition, analysis, and interpretation of the data; Drafting or revising it critically for important intellectual content; Final approval of the version to be published; Agreement to be accountable for all aspects of the work.

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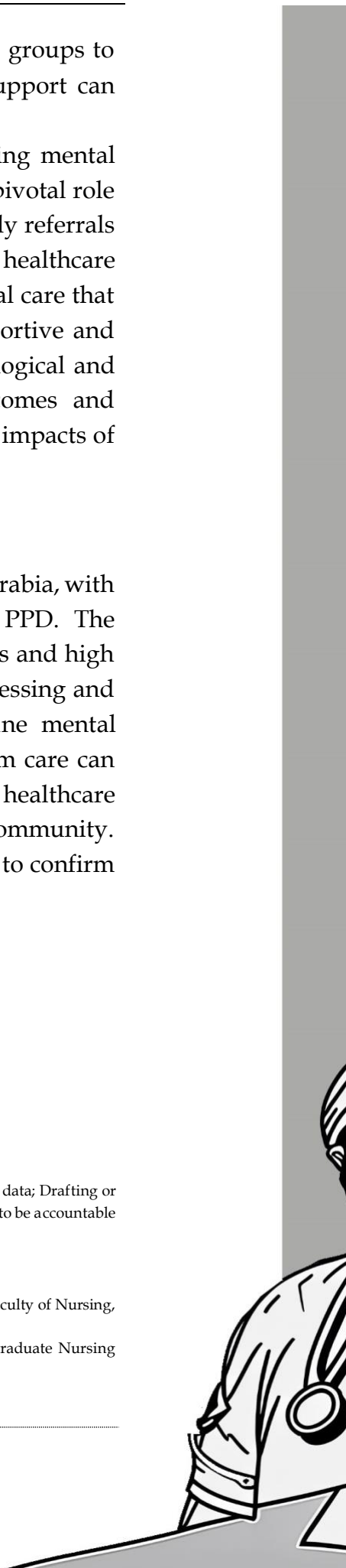

Data Availability Statement

The dataset generated during and analyzed during the current study is available from the corresponding author upon reasonable request.

Declaration of the Use of AI in Scientific Writing

None.

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How to Cite This Article

Albargi, N. A., Alsharif, N. H., Sharahili, M. M., & Kherd, N. K. (2024). The relationship between perceived social support, self-esteem, and postpartum depression among Saudi women: A correlational cross-sectional study. *Journal of Healthcare Administration, 3*(2), 100-112. https://doi.org/10.33546/joha.3504